

ABSTRACT

A three-dimensional magnetic bearing sensor 10a includes a first sensor 101, a second sensor 102, and a third sensor 103 each constituted by a magneto-impedance sensor element 10 comprising a magnetic sensitive member 2 having a characteristic changed responsive to an external magnetic field, an insulator 4 formed to allow penetration of the magnetic sensitive member 2 therethrough, and an electromagnetic coil 3 made up of foil-like conductive patterns 31, 32 arranged in adjacent relation on an outer surface of the insulator 4. The first sensor 101, the second sensor 102, and the third sensor 103 are disposed such that directions in which the magnetic sensitive members 2 in respective sensors have maximum magnetic field detection sensitivities are substantially orthogonal to each other.